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Docket No.: 2185-0775PUS1  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Makoto ITAGAKI et al.

Application No.: 10/549,939

Confirmation No.:

Filed: September 16, 2005

Art Unit: N/A

For: OPTICALLY ACTIVE COPPER CATALYST  
COMPOSITION

Examiner: Not Yet Assigned

**LETTER**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Subsequent to the filing of the above-identified application on September 20, 2005, attached hereto are the Form PCT/IB/338, Form PCT/IB/373 and Form PCT/ISA/237 that should be made of record in the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or to credit any overpayment to Deposit Account No. 02-2448 for any

additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Dated: August 17, 2006

Respectfully submitted,

By \_\_\_\_\_

John W. Bailey

Registration No.: 32,881

BIRCH, STEWART, KOLASCH & BIRCH, LLP

8110 Gatehouse Road

Suite 100 East

P.O. Box 747

Falls Church, Virginia 22040-0747

(703) 205-8000

Attorney for Applicant

Attachment(s)

From the INTERNATIONAL BUREAU

**PCT**

NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY  
(CHAPTER I OR CHAPTER II)  
OF THE PATENT COOPERATION TREATY)  
(PCT Rules 44bis.3(c) and 72.2)

To:

ENOMOTO, Masayuki  
c/o Sumitomo Chemical Intellectual Property Service, Limited  
5-33, Kitahama 4-chome, Chuo-ku  
Osaka-shi, Osaka 541-8550  
JAPON

Date of mailing (day/month/year)  
02 March 2006 (02.03.2006)

Applicant's or agent's file reference  
563215

**IMPORTANT NOTIFICATION**

International application No.  
PCT/JP2004/004185

International filing date (day/month/year)  
25 March 2004 (25.03.2004)

Applicant  
SUMITOMO CHEMICAL COMPANY, LIMITED et al

**1. Transmittal of the translation to the applicant.**

- The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).
- The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

**2. Transmittal of the copy of the translation to the designated or elected Offices.**

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

None

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

**3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).**

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

**It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.**

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Authorized officer

Masashi Honda

Facsimile No.+41 22 740 14 35

Facsimile No.+41 22 338 70 10

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 563215	<b>FOR FURTHER ACTION</b>		See item 4 below
International application No. PCT/JP2004/004185	International filing date ( <i>day/month/year</i> ) 25 March 2004 (25.03.2004)	Priority date ( <i>day/month/year</i> ) 31 March 2003 (31.03.2003)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant <b>SUMITOMO CHEMICAL COMPANY, LIMITED</b>			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).
2. This REPORT consists of a total of 5 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input type="checkbox"/>            | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |
| <input checked="" type="checkbox"/> | Box No. VII  | Certain defects in the international application  |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application   |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

Date of issuance of this report  
22 February 2006 (22.02.2006)

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No. +41 22 740 14 35	Authorized officer  <b>Masashi Honda</b>  Telephone No. +41 22 338 70 10
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# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

**PCT**

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

		Date of mailing (day/month/year)
Applicant's or agent's file reference <b>563215</b>		<b>FOR FURTHER ACTION</b> See paragraph 2 below
International application No. <b>PCT/JP2004/004185</b>	International filing date (day/month/year) <b>25.03.2004</b>	Priority date (day/month/year) <b>31.03.2003</b>
International Patent Classification (IPC) or both national classification and IPC		
Applicant <b>SUMITOMO CHEMICAL COMPANY, LIMITED</b>		

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP	Authorized officer
Facsimile No.	Telephone No.

**Translation**

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT / JP2004/004185

Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
 This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material
    - a sequence listing
    - table(s) related to the sequence listing
  - b. format of material
    - in written format
    - in computer readable form
  - c. time of filing/furnishing
    - contained in the international application as filed.
    - filed together with the international application in computer readable form.
    - furnished subsequently to this Authority for the purposes of search.
3.  In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT / JP2004/004185

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-13	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-13	NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims		NO

2. Citations and explanations:

Document 1: JP 2001-278851 A (Sumitomo Chemical Co., Ltd.) 10 October 2001

Document 2: JP 2003-12675 A (Sumitomo Chemical Co., Ltd.) 15 January 2003

Based on the description in document 1 cited in the international search report, the inventions of claims 1-3, 5, and 11-13 lack an inventive step.

Document 1 describes a copper catalyst composition containing a salicylideneamino alcohol and a copper compound, and an organic solvent containing that composition. Moreover, document 1 also describes the manufacture of a cyclopropane compound in the presence of that composition, and the addition of an alkali compound such as a sodium compound, potassium compound, etc., during the preparation of that composition (Claims 1 and 2; Par. Nos. 0007-0009 and 0014).

Document 1 does not state that the copper catalyst composition contains a lithium compound, but based on the description that an alkali compound is added, this examination finds that persons skilled in the art can easily conceive of preparing the inventions of claims 1-3, 5, and 11-13 by specifically selecting a lithium compound as the alkali compound.

Based on the descriptions in documents 1 and 2 cited in the international search report, the inventions of claims 4 and 6-10 lack an inventive step.

Document 1 does not state that the copper catalyst composition contains a Lewis acid, but as described in document 2 (Claims 1-9; Par. No. 0009), it was known from prior art that the addition of a Lewis acid to a copper catalyst composition will increase the reactive activity of the catalyst. Although the organic molecule that is a component of the copper catalyst composition described in document 1 differs from the one that is a component of the copper catalyst composition described in document 2, this examination finds that persons skilled in the art can easily conceive of preparing the inventions of claims 4 and 6-10 by adding a Lewis acid, which is publicly known as a reaction promoter to the invention described in document 1.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.  
PCT / JP2004/004185

Box No. VII      Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Methoxy lithium is described in the invention of claim 8 as a "compound selected from group c-2)," but lithium compounds are classified as group c-1) (see claim 1); thus the content of this description is unclear.

Claim 13 describes "the process for producing the optically active cyclopropane compound according to claim 7," but because the invention of claim 7 is not a process for producing a cyclopropane compound, but is the invention of a copper catalyst composition, this examination assumes that the reference to "claim 7" is a misprint (and actually a reference to "claim 12").